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10/689,295	10/20/2003	Richard M. Barrett JR.	073671.0184	4284

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EXAMINER

LEE, CHRISTOPHER E

ART UNIT	PAPER NUMBER
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2111

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/689,295

Applicant(s)

BARRETT ET AL.

Examiner

Christopher E. Lee

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-19,22-32 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6,9-19,22-32 and 35-39 is/are allowed.
- 6) ☒ Claim(s) 40-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION***Receipt Acknowledgement***

1. Receipt is acknowledged of the Amendment filed on 29th of March 2007. Claims 40, 42, and 44 have been amended; no claim has been canceled; and no claim has been newly added
5 since the RCE Non-Final Office Action was mailed on 9th of March 2007. Currently, claims 1-6, 9-19, 22-32, and 35-45 are pending in this Application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
10 obviousness rejections set forth in this Office action:

15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any
20 evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. [US 2006/0098620 A1; hereinafter Zhou] in view of Le et al. [US 7,154,877 B2; hereinafter Le].
25

Referring to claim 40, Zhou discloses a system (i.e., communication systems; See paragraph [0002]) for providing both wireline and wireless connections (i.e., wireline connection

between Mobile Bridge 110 and Wired WAN 130, and wireless connection between said Mobile Bridge 110 and Wireless WAN 120 in Fig. 1A) to a wireline interface (i.e., Wired LAN Ethernet 312 of Fig. 3; See paragraph [0026]), the system (i.e., said communication systems) comprising:

- a first wireline interface (i.e., Wired LAN Ethernet 312 of Fig. 3);
- 5 • a second wireline interface (i.e., Wired WAN Ethernet 315 of Fig. 3);
- a wireless interface (i.e., Radio Interfaces 324 of Fig. 3); and
- a switch (i.e., STP Bridge 311 and NAT 314 in Fig. 3) coupled to the first and second wireline and wireless interfaces (See paragraphs [0042]-[0043]), the switch being operable to selectively:

10 ○ couple the first wireline interface (i.e., said Wired LAN Ethernet) to the second wireline interface (i.e., said Wired WAN Ethernet) using a first link (i.e., NAT link between said Wired LAN Ethernet and said Wired WAN Ethernet in Fig. 4A) to allow communication between the first and second wireline interfaces (See paragraph [0028], lines 1-4); and

15 ○ couple the first wireline interface (i.e., said Wired LAN Ethernet) to the wireless interface (i.e., said Radio Interfaces) using a second link (i.e., NAT+Protocol Translation link between said Wired LAN Ethernet and said Wireless WAN Radio Interfaces in Fig. 4A) to allow communication between the first wireline interface and the wireless interface (See paragraph [0028], lines 4-9).

20 Zhou does not teach the wireless interface comprises a first wireless interface that is operable to communicate with a second wireless interface via a first wireless connection, and further operable to communicate with a third wireless interface via a second wireless connection; the second wireless interface and the third wireless interface are each associated with corresponding communication devices; and communications associated with the first

wireless connection and communications associated with the second wireless connection are scheduled according to priority levels assigned to the communication devices.

Le discloses a system for best effort scheduling (See Title and Abstract), wherein

- a first wireless interface (i.e., access point 115' of Fig. 3) that is
 - 5 ○ operable to communicate with a second wireless interface (i.e., means for receiving and transmitting signal in wireless device 105A in Fig. 3) via a first wireless connection (i.e., network link between said access point and said means for receiving and transmitting signal in said wireless device 105A), and further
 - 10 ○ operable to communicate with a third wireless interface (i.e., means for receiving and transmitting signal in wireless device 105B in Fig. 3) via a second wireless connection (i.e., network link between said access point and said means for receiving and transmitting signal in said wireless device 105B);
 - 15 ○ the second wireless interface and the third wireless interface are each associated with corresponding communication devices (i.e., said wireless devices 105A and 105B; See col. 4, lines 23-32); and
- communications associated with the first wireless connection (i.e., information transmission and reception using said means for receiving and transmitting signal in wireless device 105A in Fig. 3) and communications associated with the second wireless connection (i.e., information transmission and reception using said means for receiving and transmitting signal in wireless device 105B in Fig. 3) are scheduled according to priority levels (i.e., priority or ranking) assigned to the communication devices (See col. 20 4, line 33 through col. 5, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said best effort scheduling, as disclosed by Le, in said wireless

interface (i.e., Radio Interfaces), as disclosed by Zhou, for the advantage of increasing bandwidth usage between said first wireless interface (i.e., access point) and said communication devices (i.e., wireless device; See Le, col. 2, lines 35-41).

5 *Referring to claim 41, Le teaches*

- the priority levels (i.e., priority or ranking) are predetermined (See Fig. 4 and col. 4, lines 33-51) and stored in a memory (i.e., priority storage 135 of Fig. 3).

10 *Referring to claim 42, Zhou discloses a method (i.e., communication methods; See paragraph [0002]) for providing both wireline and wireless connections (i.e., wireline connection between Mobile Bridge 110 and Wired WAN 130 and wireless connection between said Mobile Bridge 110 and Wireless WAN 120 in Fig. 1A) to a wireline interface (i.e., Wired LAN Ethernet 312 of Fig. 3; See paragraph [0026]), the method comprising selectively:*

- coupling a first wireline interface (i.e., Wired LAN Ethernet 312 of Fig. 3) to a second wireline interface (i.e., Wired WAN Ethernet 315 of Fig. 3) using a first link (i.e., NAT link between said Wired LAN Ethernet and said Wired WAN Ethernet in Fig. 4A) to allow communication between the first and second wireline interfaces (See paragraph [0028], lines 1-4); and
- coupling the first wireline interface (i.e., said Wired LAN Ethernet) to a first wireless interface (i.e., Radio Interfaces 324 of Fig. 3) using a second link (i.e., NAT+Protocol Translation link between said Wired LAN Ethernet and said Wireless WAN Radio Interfaces in Fig. 4A) to allow communication between the first wireline interface and the first wireless interface (See paragraph [0028], lines 4-9).

Zhou does not teach the method further comprising scheduling communications between the first wireless interface and a second wireless interface and communications between the first wireless interface and a third wireless interface, wherein: the second wireless interface and the third wireless interface are each associated with corresponding communication devices; and
5 the scheduling is performed according to priority levels assigned to the communication devices.

Le discloses a method for best effort scheduling (See Title and Abstract), wherein

- scheduling (i.e., said best effort scheduling)
 - communications between a first wireless interface (i.e., access point 115' of Fig. 3) and a second wireless interface (i.e., means for receiving and transmitting
10 signal in wireless device 105A in Fig. 3) and
 - communications between the first wireless interface (i.e., said access point) and a third wireless interface (i.e., means for receiving and transmitting signal in wireless device 105B in Fig. 3), wherein:
 - the second wireless interface and the third wireless interface are each
15 associated with corresponding communication devices (i.e., said wireless devices 105A and 105B; See col. 4, lines 23-32); and
 - the scheduling (i.e., said best effort scheduling) is performed according to priority levels (i.e., priority or ranking) assigned to the communication devices (See col. 4, line 33 through col. 5, line 17).

20 Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said method for best effort scheduling, as disclosed by Le, in said method, as disclosed by Zhou, for the advantage of increasing bandwidth usage between said first wireless interface (i.e., access point) and said communication devices (i.e., wireless device; See Le, col. 2, lines 35-41).

Referring to claim 43, Le teaches

- the priority levels (i.e., priority or ranking) are predetermined (See Fig. 4 and col. 4, lines 33-51) and stored in a memory (i.e., priority storage 135 of Fig. 3).

- 5 *Referring to claim 44, Zhou discloses logic (i.e., communication methods; See*
paragraph [0002]) for providing both wireline and wireless connections (i.e., wireline connection
between Mobile Bridge 110 and Wired WAN 130 and wireless connection between said Mobile
Bridge 110 and Wireless WAN 120 in Fig. 1A) to a wireline interface (i.e., Wired LAN Ethernet
312 of Fig. 3; See paragraph [0026]), the logic encoded in recordable media and when
10 executed, selectively performing steps (i.e., STP bridge software module 311 and NAT/NAPI
software module 314 in Fig. 3; See paragraphs [0042] and [0043]) comprising:
- causing a switch (i.e., STP Bridge 311 and NAT 314 in Fig. 3) to communicatively couple
a first wireline interface (i.e., Wired LAN Ethernet 312 of Fig. 3) to a second wireline
interface (i.e., Wired WAN Ethernet 315 of Fig. 3) using a first link (i.e., NAT link
15 between said Wired LAN Ethernet and said Wired WAN Ethernet in Fig. 4A) to allow
communication between the first and second wireline interfaces (See paragraph [0028],
lines 1-4); and
 - causing a switch (i.e., STP Bridge 311 and NAT 314 in Fig. 3) to communicatively couple
the first wireline interface (i.e., said Wired LAN Ethernet) to a first wireless interface (i.e.,
20 Radio Interfaces 324 of Fig. 3) using a second link (i.e., NAT+Protocol Translation link
between said Wired LAN Ethernet and said Wireless WAN Radio Interfaces in Fig. 4A)
to allow communication between the first wireline interface and the first wireless
interface (See paragraph [0028], lines 4-9).

Zhou does not teach the logic further scheduling communications between the first wireless interface and a second wireless interface and communications between the first wireless interface and a third wireless interface, wherein: the second wireless interface and the third wireless interface are each associated with corresponding communication devices; and the scheduling is performed according to priority levels assigned to the communication devices.

Le discloses a logic (i.e., system for best effort scheduling; See Title and Abstract), wherein

- scheduling (i.e., said best effort scheduling)
 - communications between a first wireless interface (i.e., access point 115' of Fig. 3) and a second wireless interface (i.e., means for receiving and transmitting signal in wireless device 105A in Fig. 3) and
 - communications between the first wireless interface (i.e., said access point) and a third wireless interface (i.e., means for receiving and transmitting signal in wireless device 105B in Fig. 3), wherein:
 - the second wireless interface and the third wireless interface are each associated with corresponding communication devices (i.e., said wireless devices 105A and 105B; See col. 4, lines 23-32); and
 - the scheduling (i.e., said best effort scheduling) is performed according to priority levels (i.e., priority or ranking) assigned to the communication devices (See col. 4, line 33 through col. 5, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said logic (i.e., system for best effort scheduling), as disclosed by Le, in said logic, as disclosed by Zhou, for the advantage of increasing bandwidth usage between said first wireless interface (i.e., access point) and said communication devices (i.e., wireless device; See Le, col. 2, lines 35-41).

Referring to claim 45, Le teaches

- the priority levels (i.e., priority or ranking) are predetermined (See Fig. 4 and col. 4, lines 33-51) and stored in a memory (i.e., priority storage 135 of Fig. 3).

5

Allowable Subject Matter

5. Claims 1-6, 9-19, 22-32, and 35-39 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

10 With respect to claims 1, 14, and 27, the claim limitations of the respective claims 1, 14, and 27 are deemed allowable over the prior art of record as the prior art fails to teach or suggest that the override is delayable until a particular communication between the first wireline interface and the second wireline interface has been completed.

The claims 2-6 and 9-13 are dependent claims of the claim 1.

The claims 15-19 and 22-26 are dependent claims of the claim 14.

15 The claims 28-32 and 35-39 are dependent claims of the claim 27.

Response to Arguments

7. Applicants' arguments with respect to claims 40-45 have been considered but are moot in view of the new ground(s) of rejection.

20

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haines et al. [US 2003/0064718 A1] disclose selective communication in a wireless network based on peer-to-peer signal quality.

Bogdon et al. [US 2004/0170181 A1] disclose prioritized alternate port routing.

Parra et al. [US 2004/0122985 A1] disclose communication device using a plurality of
5 communication interfaces, and wireless LAN access point.

Bartek et al. [US 7,136,904 B2] disclose wireless cable replacement for computer peripherals using a master adapter.

Bajikar [US 2003/0125019 A1] discloses mitigating interference among multiple radio device types.

10 Coffman [US 2004/0160957 A1] discloses wireless datagram transaction protocol system.

Volpano [US 2002/0083206 A1] discloses method and apparatus extending a server to a wireless-router server.

Keohane et al. [US 2004/0236856 A1] disclose method and apparatus for prioritizing
15 users in a wireless hub.

Lowe et al. [US 2004/0137925 A1] disclose preselection of resources in a personal area network.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant
20 is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 571-272-3637. The examiner can normally be reached on Monday through Friday, 9:30am - 6:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 571-272-3632. The fax phone number for the
10 organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR
15 system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Christopher E. Lee
Primary Patent Examiner
Art Unit 2111

/CEL/